REMARKS

Claims 1-56 have been rejected. Claims 22-56 have been withdrawn. Claims 5, 14 and 21 have been canceled. Claims 57-68 have been added. Reconsideration of the pending claims is requested based on the amendments and arguments herein.

Claims 11-12 and 15-18 have been amended to remove the words "the step of", which are not needed for grammatical consistency. This change does not narrow the scope of the claims.

Drawings

The Office did not approve the drawing changes submitted with the amendment dated September 16, 2002. The originally submitted drawings remain the current set of drawings. The Office has objected to the current set of drawings in that one or more elements recited in claims 5 and 14 are not shown. In the interest of furthering prosecution, claims 5 and 14 have been canceled, therefore, any figure rejections with regards to claims 5 and 14 should be withdrawn, and the drawing accepted.

35 U.S.C. § 112 Rejections

The Office has objected to Claims 5, 14 and 21 as containing subject matter not described in the specification. In the interest of furthering prosecution, claims 5, 14 and 21 have been canceled without prejudice or disclaimer. Withdrawal of the rejection is solicited.

Claim 1 has been amended to overcome informalities identified by the Office and not to narrow the scope of the claims. Claim 1 has been amended to provide proper antecedent basis support, and to remove an unneeded term. The scope of claim 1 has not been narrowed.

Claim 3 has been rejected for the phrase "wherein the representation of the decoded video is the decoded video", which the Office states is vague and indefinite. It is respectfully submitted that claim 3 is not vague and indefinite. Specifically, claim 2, from which claim 3 depends, indicates that a representation of the decoded video of claim 1 is stored. Claim 3 indicates specifically that the representation of the decoded video is the decoded video recited in

claim 1, as opposed to some other representation of the decoded video. Withdrawal of the § 112 rejection of claim 3 is solicited.

The Office has rejected claim 10 for use of the term "MPEG". The Office asserts that the claim is indefinite because there are many version of the MPEG recommendations, and because they are continuously updated, and therefore its use is indefinite. The recitation of MPEG in the claims should be limited to variations of MPEG utilizing motion vectors consistent with the disclosure herein. To the extent necessary, the recitation of MPEG should be limited to those variations of MPEG known at the time of filing.

35 U.S.C. § 103 Rejections

Claim 1 has been amended to provide proper antecedent basis support and to remove an unneeded term. Claim 11 has been amended to correct a typographical error. The proposed amendments do not narrow the scope of claims 1 or 11.

The Office has rejected claims 1 and 11 under 35 U.S.C. 103(a) as unpatentable over Boyce in view of Takahashi. It is respectfully asserted that claim 1 is non-obvious over Boyce (U.S. patent application 5,635,985) and Takahashi (U.S. Patent Application 6,005,623) for at least the reasons put forth below.

Claim 1 recites, in part, a system comprising a video decoder to receive a video input stream having one or more first motion vectors, the video decoder to provide decoded video and the first motion vectors associated with the video input stream, and a first memory to store the first motion vectors (emphasis added). The Office states that these limitations are disclosed by Boyce. The Applicant respectfully disagrees. Boyce discloses a decoder 200. Note that the specification improperly states at column 4, line 56 that the decoder of FIG. 2 is labeled 100, but it is actually labeled 200. The specification of Boyce states that decoder 200 includes the Memory Circuit 114 that itself includes Data Buffer 116 and Frame Buffer 118 (Boyce column 4, line 64 to column 5, line 3). The decoder's use of internal buffer memory 116 to buffer the motion vectors during decoding is different than the decoder providing the first motion vectors, as recited in claim 1, so that a different device, such as the recited encoder, can access them. Specifically, the decoder 200 of FIG. 2 does not provide the first motion vectors as recited,

instead it only buffers motion vectors for internal use, which is consistent with the prior art where the motion vectors are not saved. Therefore, the system of Boyce is not capable of storing the first motion vectors as recited. The Office suggests that Takahashi's frame buffers disclose a memory; however, the frame buffers of Takahashi do not disclose storing motion vectors as recited in claim 1. Claim 1 is necessarily non-obvious, in that neither Boyce nor Takahashi disclose nor suggest, alone or in combination, providing and/or storing motion vectors as recited in claim 1. Withdrawal of the rejection of claim 1 under § 103 is respectfully requested.

Claim 1 further recites, in part, a scaler coupled to receive the decoded video and to provide a scaled video, and an encoder coupled to the scaler and first memory to provide a compressed representation of the scaled video using the first motion vectors saved in the first memory. The Office states that up-sampler 131 discloses a scaler to provide a scaled video as asserted. However, because the output video from up-sampler 131 is downscaled immediately after interpolation and motion vector prediction, the scaled video from 131 cannot be provided to an encoder as recited.

For at least the reasons stated above, claim 1 should be found non-obvious over the combination of Boyce and Takahashi because the references do not disclose nor suggest the recited invention. Allowance of claim 1, and those claims that depend from claim 1, is solicited. In addition, those claims depending from claim 1, including new claims 57-63, provide additional non-obvious subject matter.

Claim 11 is believed to be non-obvious over Boyce (U.S. patent application 5,635,985) and Takahashi (U.S. Patent Application 6,005,623) for at least the reasons put forth below.

Claim 11 recites, in part, storing the plurality of first motion vectors (a stored plurality of first motion vectors), and generating one or more second motion vectors based on the stored plurality of first motion vectors. The Office states that these limitations are disclosed by Boyce. The Applicant respectfully disagrees. Boyce discloses a decoder 200. The specification of Boyce states that decoder 200 includes the Memory Circuit 114 that itself includes Data Buffer 116 and Frame Buffer 118 (Boyce column 4, line 64 to column 5, line 3). The decoder's use of internal buffer memory 116 to buffer the motion vectors during decoding is different than storing the plurality of first motion vectors and generating motion vectors based on the stored plurality

of motion vectors as recited. Boyce's buffering of motion vectors in its decoder is consistent with the prior art, where the motion vectors are buffered only for the purpose of decoding and not saved in the recited context. Furthermore. Takahashi's reuse of motion vectors does not disclose nor suggest the storing of motion vectors as recited. Claim 1 is necessarily non-obvious, in that neither Boyce nor Takahashi disclose nor suggest, alone or in combination, storing, motion vectors and generating motion vectors based on the stored plurality as recited in claim 1.

For at least the reasons stated above, claim 11 is non-obvious over the combination of Boyce and Takahashi, which do not disclose nor suggest the recited invention. Allowance of claim 11, and those claims that depend from claim 11, is solicited. In addition, those claims depending from claim 11 provide additional non-obvious subject matter.

The Office has rejected claims 9, 16, and 18 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Boyce, Takahashi, as put and Samad (U.S. Patent Application 5,027,203). The Applicant respectfully disagrees.

The Office admits that the combination of Boyce and Takahashi does not disclose a vector generation portion that generates a specific motion vector based on a most frequently occurring vector of the first motion vectors. Likewise, Samad does not disclose the reuse of any vectors. Samad discloses calculating motion vectors for an un-compressed image and from these motion vectors Samad determines a plurality of most frequently occurring vector for the purpose of representing motion in an entire scene. Samad does not generate a specific motion vector based on a most frequently occurring vector. Therefore, because the combination of Boyce, Takahashi and Samad neither disclose nor suggest, alone or in combination, generating a specific motion vector as recited, claims 9, 15 and 18 are necessarily non-obvious, and should additionally be allowed for this reason. In addition, claims which depend from claim 11, including new claims 64-68, provide additional non-obvious subject matter.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-1835.

Should the Examiner deem that any further action by the Applicant(s) would be desirable for placing this application in even better condition for issue, the Examiner is requested to issue a

formal Notice of Allowance for all pending claims. If, for any reason, the Office is unable to allow the Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney or agent.

Respectfully submitted,

12-14-03
Date
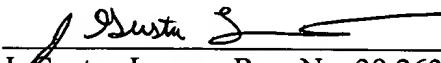
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